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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700,467	11/05/2003	Masayuki Tajiri	4074-10	8801
23117	7590	10/18/2005		
NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203			EXAMINER LAM, DAVID	
			ART UNIT 2827	PAPER NUMBER
DATE MAILED: 10/18/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/700,467	TAJIRI, MASAYUKI	
	<b>Examiner</b>	<b>Art Unit</b>	
	David Lam	2827	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 August 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 14-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 7, 8, 11 and 12 is/are rejected.
- 7) ☒ Claim(s) 2-6, 9-10, 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/05/03</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restriction***

1. Applicant's election without traverse of claims 1-13 in the reply filed on 8/10/05 is acknowledged.

### ***Specification***

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Shimizu et al. (4,479,106).

Regarding to claims 1, 7, Shimizu et al. disclose a variable resistor comprising: a first electrode (3a, 13a) and a second electrode (3b, 13b) facing each other and formed on a substrate; a variable resistance body (2, 12) formed between the first electrode and the second electrode,

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characterized in that the first electrode and the second electrode face each other in a direction of a surface of the substrate, wherein the first electrode is columnar. *See Figs. 3-5; Cols. 3-5.*

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 8, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu et al. (4,479,106) in view of Moos et al. (6,144,286).

Regarding to claims 8, 11, Shimizu et al. disclose a variable resistor comprising: a first electrode (3a, 13a) and a second electrode (3b, 13b) facing each other and formed on a substrate; a variable resistance body (2, 12) formed between the first electrode and the second electrode, characterized in that the first electrode and the second electrode face each other in a direction of a surface of the substrate, wherein the first electrode is columnar. *See Figs. 3-5; Cols. 3-5.*

Shimizu et al. lack an inclusion of wherein the resistance body is made of a manganese oxide of a perovskite structure.

Moos et al. Disclose a resistor with the resistance body is made of a manganese oxide of a perovskite structure. *See Fig 2; Cols. 3-6.*

It would have been obvious to one having ordinary skill in the art at the time of the invention to form the resistance body that made of a manganese oxide of a perovskite structure of Shimizu et al. resistor to provide a reliable temperature coefficient.

5. Claim 12 rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu et al. (4,479,106) in view of Moos et al. (6,144,286) as applied to claim 11 above, and further in view of Doerr et al. (2004/0096699).

Regarding to claim 12, Shimizu et al. (4,479,106) and Moos et al. (6,144,286) disclose the propose device as noted above.

Shimizu et al. (4,479,106) in view of Moos et al. (6,144,286) lack an inclusion of wherein the manganese oxide is  $\text{Pr.sub.}(1-x)\text{Ca.sub.}x\text{MnO.sub.}3$ .

Doerr et al. disclose a resistive component comprising compound of manganese oxide that is  $\text{Pr.sub.}(1-x)\text{Ca.sub.}x\text{MnO.sub.}3$ .

It would have been obvious to one having ordinary skill in the art at the time of the invention to form manganese oxide that is  $\text{Pr.sub.}(1-x)\text{Ca.sub.}x\text{MnO.sub.}3$  of Shimizu et al. and Moos et al.'s propose device in order to provide a good service life and easy maintain of the properties of the component. *See. Page 1.*

#### ***Allowable Subject Matter***

6. Claims 2-6, 9-10, 13 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fails to teach the above noted variable resistor and wherein the nonvolatile resistance body is formed on an outer surface of the first electrode, and the second electrode is formed on an outer surface of the nonvolatile variable resistance body.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Onishi et al. (6,434,815) disclose a variable resistor incorporated in a rotor.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Lam whose telephone number is 571-272-1782. The examiner can normally be reached on 6:00 – 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoai Ho can be reached on 571-272-1777. The fax phone numbers for the organization where this application or proceeding is assigned is (571) 272-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**D. Lam**

October 17, 2005

  
**DAVID LAM**  
**PRIMARY EXAMINER**